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Re: Cabrillo Port Liquefied Natural Gas Deepwater Port Draft Environmental Impact Statement/Environmental Impact Report

Dear Lieutenant Kusano and Mr. Oggins:

The following comments are submitted by the Environmental Defense Center ("EDC") on behalf of our client, the California Coastal Protection Network ("CCPN"), regarding the Draft Environmental Impact Statement/Environmental Impact Report ("DEIS/R") for the Cabrillo Port Liquefied Natural Gas ("LNG") Deepwater Port project. The project is proposed to provide a source of energy for the State of California. However, the DEIS/R fails to accurately assess the state's projected energy demand, and overlooks the availability of energy efficiency and renewable sources as an alternative means to meet the state's demand. The comments below demonstrate that through increased reliance on energy efficiency and renewable sources of energy, the state could *more than triple* the amount of energy to be delivered by the Cabrillo Port project. Accordingly, the DEIS/R must be revised to disclose these alternatives. Instead, the DEIS/R rejects any other alternative, thereby limiting the discretion of the decision-makers. In fact, the DEIS/R does not evaluate any alternative except locating the LNG terminal closer to shore, in an area that would result in even greater environmental impacts. G437-1 G437-2

The DEIS/R also grossly underestimates the potential safety impacts of the proposed project by utilizing incorrect methodology to calculate the consequences of a release from the LNG tankers or terminal. The DEIS/R states in several instances throughout the Public Safety section that it has taken a conservative approach to consequence modeling; however, closer inspection by independent and respected LNG safety experts Dr. Thomas Spicer and Dr. James Fay reveals G437-3 G437-4

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G437-1
Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, 3.3.3 and 4.10.1.3 contain additional information on this topic.

G437-2
Sections 1.2.2, 1.2.3, 1.2.4, 1.2.5 (in Section 1.2, Project Purpose, Need, and Objectives), and Section 3.3, Alternatives Eliminated from Further Analysis, contain revised text on this topic. Under NEPA and the CEQA, a reasonable range of alternatives must be considered to permit a reasoned choice of alternatives with respect to their environmental impacts.

Information on the alternatives has been added in several sections. However, NEPA and the CEQA do not dictate an amount of information to be provided but rather prescribe a level of treatment, which may in turn require varying amounts of information to enable reviewers and decision-makers to evaluate and compare alternatives.

As discussed in Sections 3.3.1 and 3.3.2, energy conservation and use of renewable energy sources do not meet the projected energy needs of California, as determined by the California Energy Commission. The projected energy gap is to be filled by seeking additional supplies of natural gas, including LNG. The project goal of fulfilling California's and the nation's short- and mid-term natural gas supply needs or diversifying the supply of natural gas should be viewed in this context.

Section 3.2 identifies the range of alternatives considered. Section 3.3 discusses 18 potential locations for the deepwater port. It builds on previous California Coastal Commission studies that evaluated nearly 100 locations. In addition, Table 3.2-1 identifies six alternative technologies that are evaluated.

It should be noted that the selection of the No Action (No Project) Alternative by decision-makers would maintain, for an indeterminate time, the status quo of California's existing and projected energy supply mix, including conservation and renewable energy sources. Decision-makers have discretion in this matter.

G437-3
Appendix C1 contains the revised Independent Risk Assessment (IRA). The Department of Energy's Sandia National Laboratories conducted an independent review of various risk analyses, and determined the one most appropriate for this project. Appendix C2 contains Sandia National Laboratory's review of the IRA. Section 4.2 contains revised text and analyses on this topic, based on the

Sandia sanctioned IRA.

G437-4
See the response to Comment G437-3.

that there are critical flaws in the modeling methodology that has served only to underestimate the hazards posed by credible LNG spill scenarios.

Dr. Thomas Spicer of the University of Arkansas, one of the developers of FERC LNG consequence modeling, concluded that the modeling performed in the DEIS/R is inappropriate for an LNG application and inconsistent with 49 CFR 193. He recalculated the hazard zones in accordance with the FERC approved LNG spill modeling methodologies, summarized below. His results and analysis, summarized and excerpted in the discussion below, reveal that the Applicant's proposed 2 nautical mile area to be avoided does not encompass the hazard distances posed by credible LNG spill scenarios. In fact, the correctly calculated vapor dispersion hazard distances from Worst Case scenarios Nos. 1 and 2 (involving only one tank) are 9.4 and 11.9 km respectively, *approximately four times greater than the hazard zones calculated in the DEIS/R*. Thus, the correct methodology reveals that the hazard zones run well into the shipping lanes. A release from two or three tanks could result in an even greater impact. Since the Cabrillo Port DEIS/R is the first environmental review document in the world to calculate and analyze various spill scenarios for an offshore LNG Port, the consequence modeling methodologies will set a precedent for future ports. **G437-4**

The importance of an accurate evaluation of impacts and alternatives is also critical because the project is proposed for construction in one of the most ecologically important and sensitive areas on the planet. In addition, the onshore portions of the project would result in a disparate impact on minorities and low-income communities. Finally, importing LNG will increase our dependence upon foreign sources of fuel and expand our use of fossil fuels, thereby contributing to global warming and other long-term environmental harm. **G437-5**

For these reasons, the federal and state lead agencies must take a careful, precautionary approach and first identify whether California really needs to import LNG. Other alternatives, including energy conservation, efficiency and renewables, should be explored and pursued first. After considering such alternatives, if the State still believes that the importation of LNG is necessary, the State should take the lead in conducting a comprehensive evaluation of such need, including a determination of how much LNG is required, how many facilities would be necessary to meet that need, and where the best location would be. The State took such an approach in 1977, when LNG was considered necessary to meet our energy demand. As we found out, this was not the case. We do not believe LNG is necessary now, either. However, if the State insists on considering the importation of LNG, the appropriate agencies should adopt the same approach that was followed in 1978: perform a comparative analysis of available sites and technologies to determine the safest and least environmentally damaging option. The State should also determine whether pursuit of LNG will negatively impact efforts to increase energy conservation and efficiency and development of clean energy alternatives. **G437-5.1** **G437-5.2** **G437-5.3**

G437-5
Section 4.19 addresses environmental justice impacts, and Section 1.2.4 discusses the foreign source of natural gas.

G437-5.1
Sections 3.3.1 and 3.3.2 address conservation and renewable energy sources, within the context of the California Energy Commission's 2005 Integrated Energy Report and other State and Federal energy reports, as alternatives to replace additional supplies of natural gas.

Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan.

Sections 4.6.1.4 and 4.6.2 contain information on Project emissions of greenhouse gases and recent California legislation regarding emissions of greenhouse gases.

G437-5.2
See the response to comment G437-2, regarding Sections 3.2 and 3.3.

G437-5.3
Section 1.2.3 discusses this topic.

1.0 INTRODUCTION

1.2 PROJECT PURPOSE, NEED AND OBJECTIVES

The DEIS/R describes the "Need" for the project as an increase in national and state demand for natural gas supplies and the related need to increase access to worldwide sources and importation of LNG. (DEIS/R, pp. 1-6, 1-7.) The ability of California customers to pay for natural gas is also identified as a statewide concern. (DEIS/R, p. 1-7). The stated "Objectives" of the project are to help California meet its growing natural gas needs and to provide a new facility for receiving imported LNG, thereby adding a significant new foreign source to the other existing sources of natural gas. (DEIS/R, p. 1-8).

As presented in the DEIS/R, the purpose, need and objectives (hereinafter referred to collectively as "purpose") are all narrowly focused on the importation of LNG from foreign sources to California. This narrow purpose violates both NEPA and CEQA because it forecloses the consideration of other alternatives that are also capable of meeting the State's energy demand without the dire environmental and safety consequences.[1] The DEIS/R should be revised to present the purpose as the need to meet existing and growing energy demands for the state, without limiting the supply to imported LNG. As shown below, in the discussion of Alternatives, there are many other options to address the state's need for energy.

G437-5,4

G437-6

The DEIS/R further limits the discretion of the agencies by defining the "Purpose of the Project: Federal and State Responsibilities" as meeting the objectives of the Deepwater Port Act ("DWPA"). However, the purpose of the project should be to provide energy, without limitation to one legislative regime. The fact that the proponent has chosen to submit an application under the DWPA does not mean that other alternatives should not be explored; in fact, NEPA specifically requires that alternatives must not be constrained by the jurisdictional limits of the lead agencies.[2]

G437-7

That being said, the proposed project must at least meet the requirements of the DWPA to be approved. We believe that the project cannot meet these requirements, due to the environmental harm, location near shipping lanes and ecologically protected areas, risks to human safety, property and resources, and impacts to the adjacent coastal state. Therefore, the project fails to meet the stated "purpose" of the DEIS/R.

G437-8

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[1]/ City of Carmel-by-the-Sea v. Dept. of Transportation, 123 F.3d 1142, 1155 (9th Cir. 1995): "The stated goal of a project necessarily dictates the range of 'reasonable' alternatives and an agency cannot define its objectives in unreasonably narrow terms;" see also Westlands Water District v. U.S. Department of the Interior, 376 F.3d 853, 865 (9th Cir. 2004); Muckleshoot Indian Tribe v. United States Forest Service, 376 F.3d 853, 865 (9th Cir. 2004); State of California v. Block, supra, 690 F.2d 753; CEQA Guidelines §15124(b).

[2]/ 40 CFR 1502.14(c).

G437-5.4
The revised Section 1.2 contains additional information on the purpose, need, and objectives of the proposed Project.

G437-6
Both NEPA and the CEQA require the consideration of alternatives to a proposed project. A lead agency's lack of jurisdiction over a potential alternative is one factor that it may consider in determining if a potential alternative is feasible, reasonable, and merits detailed study in an EIS/EIR. Whether a potential alternative is purely hypothetical or speculative, or whether the potential alternative can be accomplished in a successful manner in a reasonable period of time are additional factors the lead agency may consider in assessing the feasibility and reasonability of the potential alternative.

From a NEPA perspective, while a Federal agency must analyze "a range of reasonable alternatives" (as opposed to any and all possible alternatives), and may be required to analyze an alternative that is outside the capability of an applicant and that is outside the jurisdiction of the agency, the threshold question in determining whether to analyze any alternative is whether that alternative would be a "reasonable" alternative. Reasonable alternatives include those that are practical and feasible from the technical and economic standpoint and using common sense (CEQ 40 Questions; #2a).

To provide for an effective "hard look" at the alternatives the agency must limit the range to those alternatives that will best serve the environmental review process, and not needlessly examine and discuss in depth remote or speculative alternatives that that discussion does not facilitate a better decision making process. As stated in 40 CFR 1502.14(a), the EIS should "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."

Section 15126.6(a) of the State CEQA Guidelines states, in part, "[t]he Lead Agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives." The California Supreme Court in the Citizens of Goleta Valley case recognized that while an agency's jurisdiction was only one factor to consider, "[t]he law does not require in-depth review of alternatives that cannot be realistically considered and successfully accomplished." In addition, the discussion in section 15364 in the State CEQA Guidelines states that "[t]he lack of legal powers of an agency to use in

imposing an alternative or mitigation measure may be as great a limitation as any economic, environmental, social, or technological factor."

Chapter 3 discusses energy conservation, efficiency, and renewable sources of energy, and explains why these potential alternatives were not studied in detail in the EIS/EIR. The range of alternatives studied in detail is reasonable and conforms to NEPA and the CEQA requirements.

G437-7
Section 1.2 contains revised text on this topic.

G437-8
The environmental impacts of the proposed Project are disclosed in this document.

1.2.2.1 National Natural Gas Needs

The DEIS/R relies on energy demand projections from the Energy Information Administration ("EIA") which assume a steady 1.8 percent increase in natural gas demand growth during the 2002-2025 timeframe. (DEIS/R, p. 1-6.) However, this demand growth assumes "business-as-usual" gas consumption patterns coupled with a much greater reliance on natural gas-fired power generation. In reality, gas demand has fluctuated considerably over the last 30 years, and higher gas prices and concerns about fossil fuel dependence are actually motivating many regions of the country to pursue aggressive renewables and efficiency standards. (See Exhibit 1.) For example, California has a stated goal of 20% renewables by 2017, and may increase that goal to 33% by 2020. Pennsylvania signed into law an 18% renewables target by 2020. New York, Colorado and Texas are all pursuing very ambitious renewables targets as well. (Id.)

Given supply constraints and price increases, it is more realistic to assume that within 2 – 4 years, the highly populated regions of the country will be subject to a target of 20% for both energy efficiency and renewables by 2020. Therefore, the DEIS/R should be revised to incorporate a natural gas demand curve that assumes a 20% renewables target by 2020 and a comparable reduction in demand via aggressive incorporation of low-cost energy efficiency measures (similar to those listed in section 4.10.1.1). G437-9

1.2.2.2 California Natural Gas Needs

The DEIS/R relies heavily on projections by the California Energy Commission; however, other sources of information must also be presented to provide a complete picture of California's demand for natural gas. For example, the lead agencies should incorporate information from the California Independent System Operators, California Resources Agency, Department of Water and Power, and the Interagency Natural Gas Task Force convened by former Governor Davis. (See Exhibit 2.) G437-10

The DEIS/R states in section 3 ("Alternatives") that energy conservation and efficiency measures will occur, whether the project is approved or not. However, it is not clear whether the DEIS/R considers such measures in determining the state's future energy needs. As shown in Exhibit 2, some conservation measures are already planned and may occur whether the project is approved or not; these measures should be taken into consideration as they will reduce the state's demand for new energy supplies. G437-11 Other measures would require additional funding and should be considered as Alternatives to the proposed project. G437-12

Contrary to the statement in the DEIS/R, natural gas demand in California is actually declining. (See Exhibit 1.) This decline will continue as the state pursues an increase in renewables and efficiency. As shown in Exhibit 1 and the discussion of Alternatives below, *developing low cost energy efficiency opportunities in California would eliminate the natural gas demand of between one and two-and-a-half LNG terminals. Increasing renewables from 20% to 30% by 2017 would eliminate the demand of a second LNG terminal.* G437-13

G437-9
Section 1.2.2 contains new information and addresses natural gas needs in the U.S. For the purposes of this EIS/EIR, forecast information from the California Energy Commission, and the Department of Energy, Energy Information Agency. See also response to Comment G437-2, regarding Sections 3.3.1 and 3.3.2.

G437-10
Section 1.2.3 contains revised text on this topic.

G437-11
Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on this topic. The EIS/EIR discusses conservation measures; however, energy measures that are considered highly speculative are outside the scope of this document.

G437-12

Sections 3.3.1 and 3.3.2 contain revised text on this topic.

G437-13
See the response to Comment G437-1. In addition, stating that the demand for LNG would be reduced or eliminated by increased renewables is speculative in light of the information from the California Energy Commission.

As stated above, California has a stated goal of 20% renewables by 2017, and the Governor is expected to propose legislation in 2005 that will require 33% renewables by 2020. San Diego Gas & Electric has already committed to 24% renewables by 2014, essentially equivalent to 33% by 2020. A large number of California communities are committing to Community Choice Aggregation with a renewable target of 40% by 2017. Industry analysts have determined that in nearly all cases these communities can achieve the 40% renewables target without an increase in rates compared to utility charges. *On a statewide basis, each 10% increase in the renewables percentage, which equals approximately 30,000 GWh of electric power demand, approximates the electric power generated by the natural gas throughput of one LNG terminal.* (See Exhibit 1.)

In addition, increased energy efficiency can result in a tremendous decrease in natural gas demand. On September 23, 2004, the California Public Utilities Commission ("CPUC") voted to reject "business-as-usual" targets and instead adopted utility energy efficiency goals that will save the equivalent of five power plants. The output of five power plants is *equivalent to the natural gas throughput of half of an LNG terminal.* (Id.)

Accordingly, the DEIS/R should be revised to replace the "business-as-usual" gas demand projections with a realistic projected increase in renewables and energy efficiency. This analysis will demonstrate that demand projections for the state are much lower than stated in the DEIS/R. G437-14

Finally, the statements in the DEIS/R that domestic and Canadian gas production is in decline, and that California is at the end of the American and Canadian pipeline are incorrect. (DEIS/R, p. 1-7.) In fact, EIA figures show a 20% increase in domestic production between 2002 and 2025, and California is closer to its primary natural gas supply basins (Rockies, New Mexico, West Texas, Alberta) than many of the Eastern U.S. natural gas demand centers. (See Exhibit 1.) The DEIS/R should be revised to provide a correct analysis of the availability of domestic and Canadian natural gas. Relying on domestic sources is much safer, more reliable and environmentally preferable to importing LNG from foreign sources. G437-15

1.2.3 Project Objectives

The DEIS/R states that the project would help California meet its growing natural gas needs over the short- and mid-term by providing access to previously unreachable supplies of natural gas. (DEIS/R, p. 1-8.) However, as stated above, the DEIS/R assumes a projected demand for natural gas that is overstated, and ignores the availability of energy efficiency and renewables to meet the state's energy demand. G437-16

1.4.2 SCOPING COMMENTS

The DEIS/R summary of scoping comments excludes critical points raised by EDC and others, including the comment that the agencies must consider all phases of the proposed project. G437-17

G437-14
Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan.

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Sections 1.2.2 and 1.2.3 contain updated information on natural gas needs in the U.S. and California. Forecast information has been obtained from the U.S. Department of Energy's Energy Information Agency and from the California Energy Commission.

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See the responses to Comments G437-2 and G437-15.

G437-17
Table 1.4.1 and Section 1.5 contain information on scoping comments received.

Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, requires Federal agencies to consider the potential environmental effects of major Federal actions that could significantly affect the global commons outside the jurisdiction of any nation. Executive Order 12114 is not applicable to the extraction and development of natural gas in foreign countries.

An evaluation of the Project's environmental effects abroad must also be viewed within the context of section 15040 of the State CEQA Guidelines, which specifically defines and correspondingly limits the authority provided to State and local agencies under the CEQA.

The Applicant has stated that the source of the natural gas for this Project would be either Australia, Malaysia, or Indonesia. As these countries are sovereign nations, the Applicant would be required to comply with those countries' applicable environmental laws and regulations pertaining to the extraction and development of natural gas fields as well as those pertaining to the liquefaction and transfer of LNG to LNG carriers. Consideration of the Applicant's compliance with a foreign nation's applicable laws and regulations is beyond the scope of this EIS/EIR.

The Applicant has indicated that the Scarborough natural gas field in the state of Western Australia could be a potential source of natural gas for the Project. In May 2005, the Honourable Ian Macfarlane, the Australian Federal Minister for Industry, Tourism and Resources, stated, "Development of the Scarborough Field and

related support facilities must be carried out in accordance with applicable laws and regulations of both the Australian Government (federal) and the State Government in Western Australia. Any activities will be subject to assessment and approvals under the applicable environmental legislative regimes. These include, among others, the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999, governing matters of national environmental significance, and, under State legislation, the Western Australian Environmental Protection Act 1986. The objectives of the Commonwealth's environmental regulatory regimes are to provide for the protection of the environment and ensure that any petroleum activity is carried out in a way that is consistent with the principles of ecologically sustainable development." (Appendix L contains a copy of this letter.)

Section 1.3 has been revised to include information on Indonesian and Malaysian environmental requirements that would regulate impacts related to producing and exporting natural gas. All three countries have existing LNG liquefaction facilities.

1.6 CONSISTENCY WITH REGIONAL AND LOCAL PLANS

NEPA and CEQA require a lead agency to analyze whether a proposed project is consistent with federal, regional, state, and local land use plans, policies, and controls for the area concerned.[3] However, in this case, the DEIS/R lists but does not analyze the proposed action's consistency with specific plans, policies and regulations. Instead, the report expressly defers analysis of the proposed action's consistency with the California Coastal Act. As a result, the DEIS/R fails to consider or identify land use impacts related to conflicts with plans and policies, even though this is listed as a threshold for triggering a significant impact.

G437-18

Conflicts with the Proposed Expansion of the Channel Islands National Marine Sanctuary

The DEIS/R states that the project would be located west of the current boundary of the Channel Islands National Marine Sanctuary ("CINMS"), and points out that the Draft Management Plan for the Sanctuary retains the current boundaries and does not change any of the major management strategies. (DEIS/R, p. 1-21.) The DEIS/R acknowledges that the CINMS is conducting studies regarding a potential boundary expansion, and will prepare a Supplemental EIS to address this issue. What the DEIS/R fails to disclose, however, is that the most common scoping comment received by the Sanctuary when the agency initiated its Management Plan update process was the need to expand the existing boundaries to ensure adequate ecosystem protection as required by the National Marine Sanctuaries Act. Accordingly, the Sanctuary commissioned a study of boundary options ("*A Recommended Study Area for the CINMS Management Planning Process: Ecological Linkages in the Marine Ecology from Point Sal to Point Mugu*," McGinnis, et al, UCSB Ocean and Coastal Policy Center, 2000),[4] created maps for these concepts, and launched a Biogeographic Study to further evaluate options to be considered in a Supplemental EIS in 2005. (See CINMS web site at www.cinms.nos.noaa.gov/manplan/boundaries.html.)

G437-19

As shown in Figure ES-3, the proposed project is located within the area considered for boundary expansion. The DEIS/R states that the presence of the FSRU and associated pipelines would not preclude the Sanctuary from including this area in new boundaries (DEIS/R, p. 1-21); however, later in the report the DEIS/R finds that other project locations "are considered unacceptable because of their location within the Channel Islands National Park (CINP) and National Marine Sanctuary, established in 1980, and the biological significance of the surrounding resources. Approval of an LNG facility in these locations is highly unlikely because it would conflict with the National Park's or Sanctuary's intended land use." (DEIS/R, p. 3-17, 3-18, regarding locations offshore of Chinese Harbor, Smugglers Cove, San Pedro Point, Bechers Bay and the west side of the Channel Islands.) Accordingly, to be consistent, the DEIS/R should determine that the project location should be rejected because it would conflict with, and possibly undermine, the proposed expansion of the CINMS. At a minimum, the DEIS/R should analyze the potential conflicts that would result if the project were to be proposed within an expanded CINMS.

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[3]/ 40 CFR 1502.16(c), 1506.2(d); CEQA Guidelines Appendix G, IX.
[4]/ All documents cited herein are incorporated by reference.

G437-18
Section 4.13.2.2 addresses the issues of consistency with major regional and local plans, as known at the time this document is published. Table 4.13-6 identifies the Project's consistency with local land use plans.

G437-19
The FSRU would be located outside of the current boundary of the Channel Islands National Marine Sanctuary (CINMS) and vessels associated with Cabrillo Port operations would not be expected to enter the CINMS. Sections 4.7.1.4, 4.13.2.2, and 4.20.1.5 discuss the potential expansion of the CINMS boundary, which is not proposed at this time. Sections 4.7.4, 4.15.4, 4.16.4, and 4.18.4 describe potential impacts on the marine environment and proposed mitigation measures to reduce those potential impacts.

2.0 DESCRIPTION OF THE PROPOSED PROJECT

The Description of the Proposed Project must include all Phases of the Project, including Gas Production, Liquefaction and Transportation from Overseas

Under NEPA, the project description must encompass an entire action, including connected, cumulative, and similar actions.[5] This description is necessary to ensure an analysis of all of the possible effects of the project, including "indirect effects," which are defined as those effects "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[6] Similarly, under CEQA, a lead agency must consider "the whole of an action" and must provide an adequate and complete project description of any project subject to an EIR.[7]

In this case, the project is described as consisting of four main types of facilities: an offshore DWP liquefied natural gas import terminal (the FSRU); offshore pipelines; a shore crossing; and onshore pipelines and related facilities. (DEIS/R, p. 2-1.) The proposed project operations are identified as: shipment within territorial waters to the FSRU; transfer of the LNG from the LNG carriers to the FSRU; heating of the LNG to return it to its gaseous conditions; transportation of the natural gas from the FSRU to shore via pipelines; and delivery of the natural gas through onshore pipelines connecting with the existing Southern California Gas natural gas system. (Id.)

However, the DEIS/R omits the portions of the project that provide for production and transportation of the LNG. Specifically, the DEIS/R fails to describe the initial phases of the project, including gas extraction, production, processing, liquefaction, and transportation from foreign sources. Each of these phases is required to bring the LNG to a location offshore California, and results in significant environmental effects that must be analyzed in the DEIS/R. These activities are not only "reasonably foreseeable," but they are indispensable to the construction and operation of the proposed project. The sole purpose of the Cabrillo Port facility is to receive LNG and, as such, demands the production and transportation of such gas to meet that purpose.

G437-20

This approach is violates NEPA for the following reasons[8]:

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[5]/ 40 C.F.R. 1508.25; Earth Island Institute v. USFS, 351 F.3d 1291 (9th Cir. 2003).
[6]/ 40 C.F.R. §1508.8(b); City of Davis v. Coleman, 521 F.2d 661 (9th Cir. 1974).
[7]/ CEQA Guidelines §15378(a); County of Inyo v. City of Los Angeles, 71 Cal. App. 3d 185, 192-198 (1977) ("A curtailed or distorted project description may stultify the objectives of the reporting process" and "draws a red herring across the path of public input."); *see also*, McQueen v. Board of Directors of the Mid-Peninsula Regional Open Space District, 202 Cal.App.3d 1136, 1143 (1988) ("An accurate project description is necessary for an intelligent evaluation of the potential environmental effects of proposed activity;" San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus, 27 Cal.App.4th 713 (1994).

[8]/ See footnote 5 for CEQA authority requiring a lead agency to consider all phases of a proposed project.

G437-20
See the response to Comment G437-17 regarding the scope of required analysis.

USCG and MARAD may not chop or **segment** a proposed action into small pieces to avoid the application of NEPA, or to avoid a more detailed assessment of the environmental effects of the overall action.[9] In this case, the various phases of gas development are all part of one overall proposed action.

In addition, the extraction, production and transport of the gas are **connected** to the regasification and distribution operations. Actions are connected if they are closely related and if they are interdependent parts of a larger action and depend on the larger action for their justification.[10] In this case, the production and liquefaction of the gas are dependent upon the construction of the Cabrillo Port project, and the construction and operation of the FSRU is dependent upon the production of the natural gas overseas. Thus, the effect of the gas extraction, production, liquefaction and transportation must be included in the environmental review of the FSRU and pipeline project.[11]

G437-21

Finally, the DEIS/R must fully analyze the **cumulative effects** of the gas production, transport, and distribution. A cumulative impact on the environment "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions."[12]. Cumulative impacts may result from "individually minor but collectively significant actions taking place over a period of time." If several actions have a cumulative environmental effect, this consequence must be considered in an EIS.[13]

The Earlier Phases of the Proposed Project will Result in Significant Environmental Impacts.

The DEIS/R fails to specify the source of the gas, which results in an incomplete project description and inadequate environmental analysis. Instead, the DEIS/R states that "The Applicant *anticipates* importing high quality natural gas to this Project when western Australia's Scarborough offshore gas field is developed and a liquefaction facility and terminal is constructed….However, if the Project comes on-line before the Scarborough field wells are operational, the Applicant has stated that it would import natural gas from other sources." (DEIS/R, p. 2-10.) The DEIS/R does not identify what those other sources might be.

G437-22

Apparently, then, not only is this field not being developed, but the facilities are not even constructed. The DEIS/R should explain whether development of this field and construction of the facilities have been approved, and if so, what the construction schedule is. If this phase of

G437-23

[9]/ 40 C.F.R. §1508.25(a); Save the Yaak Committee v. Block, 840 F.2d 714, 720 (9th Cir. 1988).
[10]/ 40 C.F.R. 1508.25(a)(1); Thomas v. Peterson, 753 F.2d 754, 758 (9th Cir. 1985); Earth Island Institute v. US Forest Service, 351 F.3d 1291, 1305 (9th Cir. 2003).
[11]/ Save the Yaak Committee v. Block, 840 F.2d at 719, 721.
[12]/ 40 C.F.R. § 1508.7.
[13]/ Blue Mountain Biodiversity Project v. Blackwood, 161 F.3d 1208, 1214 (9th Cir. 1998); Kern v. United States BLM, 284 F.3d 1062, 1076 (9th Cir. 2002) (an EA "may be deficient if it fails to include a cumulative impact analysis").

G437-21
See the response to Comment G437-17 regarding the scope of required analysis.

G437-22
Section 2.2.1 has been updated to include the alternate sources of natural gas. Also, see the response to Comment G437-17 regarding the scope of the required analysis.

G437-23
See the response to Comment G437-22.

the project is approved, the EIS/R should identify any potential obstacles to actual development and implementation of the project. If there are any obstacles, or if development plans and facilities are not approved, then it is impossible to prepare a realistic analysis of the project's impacts. Producing gas from "other sources" could have very different impacts.

Accordingly, the DEIS/R should be revised to identify the source of the gas and the location of any production and processing facilities. If the project does import natural gas from the Scarborough field, the DEIS/R must evaluate the impacts of extraction and production on the natural resources and ecology of the area. Specifically, the DEIS/R must consider the project's impacts to the coral reefs, mangrove forests, and the islands of Dampier Archipelago.

Coral reefs: The Australian coral reefs and their associated sea grass and mangrove habitats are among the most diverse and valuable ecosystems on Earth. They have been in existence since before the advent of human civilization. The scientific and aesthetic characteristics of the ancient living organisms making up the reef, and their complex habitats, represent nothing less than a living museum of unparalleled value. These reef systems are storehouses of immense biological wealth, supporting more species per unit area than any other marine ecosystem. The best estimates are that coral reefs may harbor on the order of one million as-yet undiscovered species, rivaling tropical rainforests in their biological diversity and complexity. The biodiversity is a source of natural products from reef-dwelling organisms that may be invaluable as lead therapeutics against a host of human diseases. The Australian coral reefs are also a source of considerable economic benefit due to both tourism and fisheries operations.

Further, it is now well appreciated that the health and value of coral reefs in the United States depends on the condition of reef ecosystems in other countries. Economically and aesthetically valuable coral reefs in many of the U.S. Pacific territories are connected to those of other Indo-Pacific reefs, including the Australian Great Barrier and Ningaloo reefs. The connection occurs through "seeding" of U.S. reefs via the transport through marine currents of juvenile corals and other reef species. The currents also carry potentially harmful pollutants and diseases, emphasizing the need for sound ocean and coastal management internationally. Protecting coral reefs from the impact of oil and gas drilling operations is a challenge of global dimensions.

The Scarborough field is located off the Australian coast at its extreme Western point and is in close proximity to the fragile reef habitat. As such, development in the Scarborough field and adjacent North West shelf drilling zone have the potential to create severe harm to the Ningaloo reef system. The Ningaloo reef stretches for 260 km along the remote Western Australian coastline, and represents the largest fringing coral reef in Australia, as well as the largest reef in the world that is found close to a continental land mass - only 100 meters offshore at its nearest point and less than seven km. at its furthest. The reef hosts many endangered species, including specific varieties of turtles, dugongs, whales, and whale sharks.

The Ningaloo reef is vulnerable to the proposed and existing gas and oil drilling operations in two ways. First, direct pollution of the marine habitat can be generated by oil spills, gas pipeline leaks, or the impact of operational waste discharges from the drilling operations. Second, the

G437-24

G437-24
See response to Comment G437-22.

increased burning of natural gas that will result from development of the Scarborough field will contribute to global climate change through continual warming as a result of increased concentrations of CO_2 in the atmosphere. It is well-documented that all coral reefs are particularly sensitive to very small changes in seawater temperature, which results in decreased rates of coral calcification, as well as increased coral bleaching and mortality. In 2000, the Global Coral Reef Monitoring Network estimated that 27% of all coral reefs were effectively already lost, and that 40% might be lost by 2010 unless urgent action were taken to reduce human impact on the ecosystems.

Mangrove forests: Mangrove forests form some of Australia's most important and widespread coastal ecosystems, growing in the intertidal zone of tropical, subtropical, and protected temperate coastal rivers, estuaries and bays. Mangrove forests cover 750,000 hectares in a discontinuous pattern around the Australian coastline. In general, mangroves play important roles in the ecology of wetlands and estuaries. By reducing the speed of currents and hence trapping sediments, mangroves help to reduce siltation in adjacent marine habitats. In addition, river-borne nutrients and chemicals are trapped and recycled within mangroves. Mangrove forests provide habitat and breeding sites for birds, fish and other wildlife. They are highly valued for their unique biodiversity.

Reflecting their predominantly tropical distribution, the greatest area of mangrove forest in Australia is in the Northern Territory, but the forests also extend across the Northwest coast to the Western extremity of the continent – directly adjacent to the proposed Scarborough field and the existing NorthWest shelf drilling zone. Like the Ningaloo coral reef system, the Australian mangrove forests are clearly susceptible to direct pollution from new gas drilling and processing operations.

Islands of the Dampier Archipelago: The islands of the Dampier archipelago are located off the Northwest Australian coast, and have important conservation value. Natural gas and liquid condensate extracted from existing offshore drilling platforms is piped to treatment plants near the towns of Karratha and Dampier, directly adjacent to the 42 islands of the archipelago. The proximity of the archipelago to ongoing and proposed new gas drilling renders it susceptible to direct pollution from these operations. The key vulnerable characteristics of the Dampier archipelago include: (i) a rich diversity of terrestrial and marine communities and habitats representative of Western Australia's northwest offshore islands; (ii) significant breeding grounds and refuge sites for a variety of land, sea and shore bird species; (iii) important habitat for five of the six marine turtle species in Australia; (iv) cultural significance to indigenous peoples and location of indigenous heritage sites – including sites of spiritual and cultural significance. These characteristics are recognized by the Australian Department of Conservation and Land Management, which has prepared a management plan to preserve the unique ecological characteristics of the region.

The DEIS/R must also identify all of the facilities and operations that will be required to produce the gas and bring it to the FSRU (similar to the description of facilities and operations provided to bring the gas from the facility to the onshore distribution system). The DEIS/R should

analyze impacts that will result from the (i) extraction, (ii) liquefaction, and (iii) delivery phases of the Cabrillo Port LNG project as described below.

Extraction: The geological characteristics of the chosen offshore natural gas field should be thoroughly described. The composition of extracted natural gas varies with the origin, type, genesis, and location of the deposit - hence, the extent, cost, and environmental impacts of purification will vary with the precise position of the field. The expected depth of the field should be described and an assessment of impurities made on the basis of existing data from other fields in the region. The extent to which impurities such as heavier hydrocarbons, carbon dioxide, hydrogen sulfide, and nitrogen are expected to be present should be described.

Careful assessment of the expected proportion of hydrogen sulfide in the extracted gas is of particular importance, because this water-soluble compound may generate severe pollution hazards in both the atmosphere and the water environment. Strategies for mitigation of the environmental harm caused by a high proportion of hydrogen sulfide should be described.

The possibility that the natural gas is present as gas hydrates on the sea bottom should be assessed. Strategies for overcoming additional difficulties in extraction associated with hydrates, such as plugging of wells and pipelines, should be described. Environmental impacts associated with any need to introduce chemical inhibitors of hydrate formation should be described.

Seabed geohazards, including difficult foundation conditions such as weak sediment strata, faults, and bouldery till, should be evaluated. Geologic processes that may alter seabed stability, such as sediment transport and erosion, should also be described and assessed with respect to the design of pipeline routing and drilling site selection. Results from preliminary geologic coring and sampling, geophysical surveys, sediment transport measurements, and modeling should be summarized.

Safety procedures to be put in place in order to minimize drilling accidents should be thoroughly described. The potential for encountering abnormally high pressures, particularly in the exploratory drilling process, should be anticipated, and procedures for minimizing the possibility of catastrophic situations involving intense and prolonged hydrocarbon gushing should be articulated.

Environmental impacts associated with the exposure of marine organisms to operational waste discharges during the drilling process should be evaluated. Potential trajectories and dispersion of operational wastes from the drilling sites should be assessed. The chemical composition of the drilling fluids used should be fully described, including the quantities of water-based muds, organic-phase drilling fluids, oil-based muds, and synthetic-based drilling fluids that are expected to be used. Procedures for limiting the discharge of these substances (for example, to levels set by the Oslo-Paris Convention for the Protection of the Marine Environment of the North Atlantic), should be described.

Purification and Liquefaction: Processing of the extracted natural gas into LNG first requires removal of contaminants, including carbon dioxide, water, hydrogen sulfide, and heavy hydrocarbons. Potential technologies for effecting this purification shall be analyzed for comparative environmental risks. Further processing or storage of the waste streams from the purification process shall be described.

Environmental risks associated with the choice to either liquefy the extracted gas offshore, or to pipe it to an on-shore facility, must be thoroughly analyzed. If the liquefaction facility is to be located offshore, technical challenges associated with the safe transfer of LNG between vessels, and design criteria for mitigation of the effects of wave motion, should be described.

If the extracted gas is to be processed onshore, design criteria and safety precautions that will be followed to ensure that pipelines are not damaged should be described. Safety features mitigating pipeline corrosion and the effects of seismic activity, including earthquakes, should be described so that potential hazardous impacts on water ecosystems are minimized.

The selection among alternative designs for the liquefaction refrigeration systems should be described with respect to the relative environmental hazards associated with each. The design of the 'end flash' system to reduce the nitrogen content and to further cool the LNG should be similarly evaluated.

Transport: The storage containment systems for the LNG aboard the tanker ships should be described. Assessment of different designs (for example, double-membrane containment systems *versus* very thick-walled spherical tanks) should be made with respect to safety characteristics and the prevention of leaks in the event of an accident. The use of secondary containment systems should be evaluated. Equipment to be used for sensing methane leaks should be described.

Methane-air mixtures are explosive when the fraction of methane is between 5% - 15%. Safety systems in the event of a leak into a locally confined area, resulting in sufficient methane buildup to cause an explosion, must be described. Safety systems should include emergency shutdown systems in the event of a leak, fire and gas detectors, and fire-fighting equipment. Ship-handling safety features should be described.

The air, water and biological impacts from the entire shipping route must be addressed in the DEIS/R (see discussion below).

In addition to the impacts described above, marine wildlife in the areas of exploration, extraction, production and development will be negatively impacted by noise pollution from exploration, construction, drilling, vessel traffic (supply ships and tankers), and production of gas. (See comments below under Marine Biology.)

By limiting the scope of environmental and project review, the DEIS/R ignores a fundamental principle of the National Environmental Policy Act ("NEPA"): that key environmental issues

must be identified early in the planning process, before any irreversible and irretrievable commitment of resources is made, and so that planning decisions can be shaped to reflect environmental values.[14]

The Description of the Operations at the FSRU is Incomplete, Misleading, and Inadequate.

Not only does the DEIS/R fail to consider the whole project, but it also fails to adequately describe the limited facilities that are addressed in the report.

For example, the DEIS/R identifies the location of the FSRU as 2.5 NM from the ***centerline*** of the nearest shipping lane. To adequately assess impacts regarding the facility's proximity to the shipping lanes, it is necessary to identify the distance of the FSRU to the ***closest edge*** of the nearest shipping lane. This inaccurate description renders the analysis of safety impacts inaccurate and inadequate. G437-25

The DEIS/R also fails to define the approach route to the FSRU, instead stating that the Applicant has proposed four different routes. (DEIS/R, p. 2-24.) The route is critical, given the proximity to the shipping lanes and sensitive ecological areas. G437-26

The DEIS/R notes that there are currently no criteria and standards for design, construction, and operation of the facilities. (DES/R, p. 2-9.) This omission makes it difficult to analyze impacts or propose mitigation measures. G437-27

The DEIS/R fails to disclose the actual alignment of the onshore gas pipeline. G437-28

The DEIS/R does not disclose which of the identified ACOE wetlands (and the non-jurisdictional state wetlands the DEIS/R does not address) would be trenched and which would be drilled under (HDD). G437-29

The lack of clear description also affects the DEIS/R's ability to evaluate and mitigate impacts to oak trees (p.4.8-42), other vegetation, and wetlands. G437-30

The Project Description states that natural gas may be "rejected" at several stages of the regasification and transport process, "if it does not meet pipeline-quality requirements." (DEIS/R, p. 2-10.) However, examination of the EIR/EIS does not reveal an analysis of the details and potential impacts of this scenario. G437-31

The Project Description specifies "normal" natural gas regasification capacity will be between 579 and 821 tons per hour. DEIS/R, p. 2-16. This range equates to a "normal" regasification capacity of 600 million – 850 million cubic feet per day. This same section specifies the G437-32

[14] 40 C.F.R. §1501.2; Andrus v. Sierra Club, 442 U.S. 347, 351 (1979); Kleppe v. Sierra Club, 427 U.S. 390, 409 (1976); State of California v. Norton, 311 F.3d at 1175, citing Metcalf v. Daley, 214 F.3d 1135, 1143 (9th Cir. 2000); Thomas v. Peterson, 753 F.2d 754 (9th Cir. 1985); Save The Yaak Committee v. Block, 840 F.2d 714, 718 (9th Cir. 1988)

G437-25
The FSRU would be located about 2 nautical miles from the closest edge of the traffic separation scheme. The distance to the centerline of the nearest traffic lane would be consistent with the navigation practices within such lanes.

G437-26
LNG carriers approaching and departing the Cabrillo Port FSRU would travel on the routes depicted in Figure 4.3-2 (also see Section 4.3.1.3). LNG carriers would neither cross nor enter the Santa Barbara Channel coastwise traffic lanes under normal operating conditions. The FSRU would be located about 2 nautical miles from the southbound coastwise traffic lane. Given this distance, its presence, under normal operating conditions, would not interfere with operations in the coastwise traffic lanes.

LNG carriers and commercial vessels longer than 65 feet (20 m) would be equipped with an automatic identification system (AIS) so that they would be able to detect other LNG carriers and other vessels. Also, LNG carriers would be responsible for adhering to the "rules of the road" for ship traffic. Section 4.3.1.4 describes safety measures to be used.

G437-27
Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. The Cabrillo Port must be designed in accordance with applicable standards, and the U.S. Coast Guard has final approval. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port Act specifies regulations that all deepwater ports must meet; Section 4.2.7.3 contains information on design and safety standards for the deepwater port. Section 4.2.8.2 contains information on pipeline safety and inspections. Impact EJ-1 in Section 4.19.4 addresses additional pipeline design requirements in areas of low-income and minority communities. The EIS/EIR's analyses have been developed with consideration of these factors and regulations and in full conformance with the requirements of NEPA and the CEQA.

G437-28
The entire corridors within which the pipelines would be located were evaluated. The pipeline alignments within the identified and analyzed corridors would be determined during final engineering design by Southern California Gas.

G437-29

Section 4.8.4 contains information on the types of crossings proposed at each of the wetlands and water crossings.

G437-30
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way in accordance with California Department of Fish and Game protocol. Surveys included a wetland delineation survey that meets the California Coastal Commission and California Department of Fish and Game wetland definition, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction. Section 4.8 has been updated with the results of these surveys, and Section 4.8.4 contains updated mitigation measures. Additional preconstruction plant and wildlife surveys, specific to the final construction timeline and designated pipeline alignment, would be completed for special status species, federally listed species, or California protected species specified by the USFWS or the CDFG, to minimize the potential for causing mortality of local wildlife. However, for purposes of the impact analyses and resultant mitigation, all relevant species are presumed to exist in the vicinity of the proposed Project.

G437-31
Section 2.2.1 contains additional information on this topic.

G437-32
The text in Section 2.2.2.3 has been updated to clarify the proposed throughput of the Project proposed under this license application.

maximum regasification capacity of 1,450 tons per hour, or 1,500 million cubic feet per day (1.5 BCFD). DEIS/R, p. 2-16. However, the DEIS/R Executive Summary (p. ES-1) and Introduction (p.1-1) state that "anticipated" daily Project regasification capacity will be 800 million cubic feet per day. This ambiguity, evidenced by certain portions of the DEIS/R specifying the Project's regasification capacity in feet per day and other portions specifying tons per hour, precludes meaningful public comment and informed decision-making.

The DEIS/R must also be revised to evaluate the maximum daily sendout capacity since the Project is planned to have such capacity. For example, the additional sendout capacity will likely require substantial, additional improvements to the SoCal Gas pipeline system, including the installation of compression facilities, which are not analyzed in the DEIS/R. Alternatively, the DEIS/R must be revised to include specific limits or caps on the Project's daily sendout capacity consistent with the quantity discussed in the DEIS/R—provided that such limits can be effectively monitored and enforced.

G437-33

The Project Description Section (§ 2.3.1.5) states that the FSRU will be loaded with 264,000 gallons of diesel fuel, with the fuel to be used for initial power generation during the installation and commissioning process. This fuel is to be stored in "two steel, single-walled tanks." This aspect of the Project constitutes a safety and environmental risk, in light of the large volume of fuel to be stored in only single-walled tanks. For example, single-walled underground storage tanks have been barred in California since 1998 in California (and other jurisdictions) because of concern for the potential of unauthorized releases of petroleum or other hazardous substances. Why then is the Project proposing only single-walled tanks? Double-walled tanks should be considered in the DEIS/R.

G437-34

3.0 ALTERNATIVES

3.1 Selection of Alternatives

By defining the Purpose, Need and Objectives Narrowly, the DEIS/R Improperly Restricts the Range of Alternatives that are Considered.

Given the wide-ranging local, regional and even global impacts cited herein, it is critical that other alternatives be given credible consideration and discussion. The DEIS/R avoids consideration of a range of alternatives, however, by characterizing the purpose, need and objectives for the project narrowly (see discussion above), in terms of the need to import LNG from foreign sources. This narrow statement of need limits the scope of alternatives available to the agency. In fact, USCG and MARAD have limited their agencies to only two real alternatives: construct an LNG receiving and regasification terminal at either the proposed project site or at Ventura Flats, which would increase project impacts.

G437-35

This approach violates NEPA and CEQA by unreasonably constraining the range of alternatives available for review. When determining the range of alternatives to be considered, the agency must consider not only the scope of the *proposed* action, but also the indirect effects of the

G437-33
No additional improvements to the SoCal transmission system other than those specified in the Project Description (Section 2.0) are proposed.

G437-34
The text has been updated in Section 2.2.2.3 under "LNG Storage Facilities."

G437-35
See the response to Comments G437-2 and G437-6. As the lead Federal agency, MARAD has determined that a reasonable number of alternatives are discussed in the EIS/EIR. In addition, contrary to the comment, the proposed Project does not "allow for the development and production of oil and gas resources off the coast of California."

action.[15] Accordingly, the statement of need must be revised to address the entire project, which is to allow for the development and production of oil and gas resources off the coast of California.

3.2 Identification of a Reasonable Range of Alternatives

An EIS/R must consider a range of alternatives. Under NEPA, the alternatives requirement is described as the "heart" of an EIS.[16] As such, an EIS must evaluate a reasonable range of alternatives, in order to ensure a meaningful choice for the decision-makers.[17] This requirement is all the more important when the action is proposed to address a major "national problem" such as the nation's energy needs.[18] As the D.C. Circuit Court of Appeals held in NRDC v. Morton, 458 F.2d at 835, "[w]hen the proposed action is an integral part of a coordinated plan to deal with a broad problem, the range of alternatives that must be evaluated is broadened." In that case, the Court held that the agency was obligated to look at a broader range of alternatives, including those outside the scope of the agency's jurisdiction. (Id. at 834-838.) Even though Congress had identified an urgent need for OCS (oil and gas) development and authorization of new leasing, the Court held that the Department of the Interior was nevertheless required to examine other energy alternatives. (Id. at 836.) The Court held that the reviewing agency may not reject alternatives based on actions by Congress or the President, and must even consider alternatives that may require new legislation for implementation. (Id. at 836-837.)

G437-36

In this case, many alternatives exist that can easily match the energy that would be obtained from the proposed LNG project. (See section 3.3 below.)

The Alternatives discussed in the DEIS/R must be capable of Avoiding or Substantially Lessening Project Impacts.

The purpose of the alternatives discussion in an EIS/R is to identify alternatives that are capable of *avoiding* or *substantially lessening* impacts that would result if the proposed project is implemented.[19] The DEIS/R improperly rejects alternatives that are capable of meeting the state's energy demand without the significant impacts that would result if the proposed project is approved and implemented.

G437-37

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[15]/ Border Power Plant Working Group v. Dept. of Energy, 260 F.Supp.2d 997, 1030-1031 (S.D. Cal. 2003).
[16]/ 40 CFR §1502.14.
[17]/ Muckleshoot Indian Tribe, supra, 376 F.3d 853; State of California v. Block, supra, 690 F.2d 753.
[18]/ Natural Resources Defense Council v. Morton, 458 F.2d 827, 835 (D.C. Cir. 1972).
[19]/ 40 CFR §§1502.14, 1505.2; CA Pub. Res. Code §21002; CEQA Guidelines §15002(a)(3); 15021(a)(2), 15126.6; Laurel Heights Improvement Association v. Regents of the University of California, 47 Cal.3d 376, 403 (1988) ("alternatives and mitigation measures have the same function – diminishing or avoiding adverse environmental effects;" "alternatives are a type of mitigation"); Citizens of Goleta Valley, *supra,* 52 Cal.3d at 566 (alternatives should "offer substantial environmental advantages over the project proposal").

G437-36
See the responses to Comments G437-2, G437-6, and G437-35.

G437-37
See responses to Comments G437-2, G437-6, G437-9, G437-13, and G437-35.

3.3 Potential Alternatives Considered but Eliminated from Further Analysis as not Reasonable

3.3.1 Energy Conservation

As stated above (see section 1), the demand increase cited in the DEIS/R is overstated because it is based on the "business-as-usual" scenario and fails to consider realistic increases in energy efficiency. Contrary to the statement in the DEIS/R, energy conservation measures can be implemented far more quickly than the time required to permit and construct an LNG terminal. (See Exhibits 1, 2.) As an example, California shaved 11-15% off peak electricity demand in 2001 almost overnight, and completely avoided projected brownouts and blackouts projected for the summer of 2001 by putting into action simple, low cost energy conservation measures. (Id.)

The Cabrillo Port LNG project is expected to supply an estimated 600 to 900 Million cubic feet per day ("MMcf/d") of natural gas. Working at its highest capacity, the project would supply a volume of natural gas equivalent to 12% of California's total natural gas consumption in 2002.[20]

There has been a remarkable decline in spending on natural gas efficiency programs and monitoring over the past few years. In 1994, California spent over $120 million on natural gas efficiency programs. By 2002, spending on such programs fell to $40 million.[21] However, the CPUC and the California Energy Commission ("CEC") believe that state funding for electricity efficiency should be doubled by 2008. They believe that doing so would reduce peak demand[22] by 1,700 Mega Watts ("MW")[23] and that 6,000 Giga Watt hours ("GWh")[24] of over-all consumption would be mitigated.

Rather than increasing the supply of natural gas to California we should focus our attention on using the current supply more effectively. Electricity generation accounts for 37% of the natural gas use in California. Therefore, by using electricity more efficiently we can actually reduce our demand for natural gas. The most cost-effective way to use energy more efficiently is through appliance and building standards. Since 1977 energy efficiency in California has increased economic growth and benefited the state's economy by $875 to $1,300 per capita. With the understanding of the dire need for improvements in energy efficient building design, the CEC

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[20]/ In 2002, California consumed 2,220,000 MM ft^3 of natural gas (Natural Gas Production and Use by California. Department of Energy, Energy Information Administration, http://www.eia.doe.gov/emeu/states/ngsales/ngsales_ca.html). Operating at average capacity (700 MMft^3 per day) for 365 days a year the project would supply California with 255,500 MMft^3 of natural gas per year (cabrilloport.ene.com). 255,500/2,220,000 = .116 = 11.6%.

[21]/ Comments of Synapse Energy Economics on the California Natural Gas Utilities' Phase 1 Proposals, prepared by Schlissel et al., Synapse Energy Economics, March 23, 2004.

[22]/ Peak demand is the electricity demand at the time of the day when the most electricity is consumed. Typically this occurs at midday when air-conditioners, lights and computers are hard at work.

[23]/ A Mega Watt is equal to 1 million Watts. This figure represents how much energy can be saved per hour at peak times.

[24]/ A Giga Watt hour is equal to 1 billion Watt hours. This figure represents a total quantity of energy that can be saved.